

REMARKS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS.

Claims 1-15 are pending in this application. Claims 7 and 9-15 have been withdrawn from consideration. Claims 1 and 6 have been amended in this response. New claims 16-23 have been added. Support for these claims can be found in paragraphs 43-53 and Figs. 7-20 of the application as originally filed. No new matter has been introduced.

It is submitted that the claims are patentably distinct over the prior art cited in the Office Action, and that these claims are in full compliance with the requirements of 35 U.S.C. § 112. The amendment of the claims, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. REJECTIONS UNDER 35 U.S.C. §§102 & 103

Claims 1-6 and 8 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 3,368,933 to Wicker (hereinafter, merely "Wicker").

Amended claim 1 recites, *inter alia*:

“A single facer corrugator belt in combination with a corrugated paper board machine, said belt comprising:

... a polymeric resin coating applied on said board contact surface of said base structure; and

a plurality of grooves formed in said polymeric resin coating;
wherein said plurality of grooves aid in improved board release and
increased rate of board moisture removal.” (emphasis added)

As understood by the Applicants, Wicker relates to a belt for use in corrugator combiner machines. Wicker teaches a belt 137 including a base structure or woven fabric 135 laminated to a sheet of Mylar polyester film. The Mylar sheet 136 is applied to the inner side of the base structure 135 as shown in Fig. 16 of Wicker. The Mylar sheet is scored such that the friction between the belt and rolls is increased and the possibility of slippage of the belt when passing around the rolls is reduced. *Wicker*, col. 8, lines 39-49; col. 10, lines 24-30.

Wicker further discloses that the modified surfaces of the belt may face outwardly in a position to contact the facer sheets of the corrugator web. However, whether on the inside or on the outside, the scores are in the Mylar sheet rather than being grooves in a resin coating, as recited in the instant claims.

Moreover, the “perforations”, as disclosed in Wicker, are through holes and not grooves as claimed in the instant invention. Wicker particularly discloses that each of the belts 49, 50 and 62 include a series of spaced perforations 75, which extend substantially entirely through the same. As a result of the perforations 75, the porosity ranges of the belts are considerably greater than those of the woven belts. *Id.*, col. 6, lines 42-62. According to the instant invention, the polymeric resin coating is applied on top of the board contact surface of the base structure and has grooves formed thereon, and not in the base structure itself nor any Mylar layer forming a multilayer belt. Therefore, Wicker, in essence, teaches away from the instant invention.

Claims 1-6 and 8 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,857,605 to Welch et al. (hereinafter, merely “Welch”) in view of Wicker.

As understood by the Applicant, Welch relates to a double backer belt for curing the web bonding adhesive and drying the corrugated paperboard web. The double backer utilizes a web holddown apparatus for maintaining the web in intimate drying contact with the lower heating units which does not require the use of a driven holddown belt. The web is pulled through the double backer by a downstream vacuum conveyor section comprising a single full width belt to the upper surfaces of which a vacuum is applied. Welch specifically teaches the use of fabric “plies” 119-121 and a polymeric resin layer 122 applied on top of these plies.

Welch, however, does not teach or disclose a polymeric resin coating applied on the board contact surface of the base structure; and a plurality of grooves formed in the polymeric resin coating, as recited in the instant claims. Furthermore, Welch does not teach or disclose the base structure being formed by machine direction yarns and cross machine direction yarns. The Examiner contends that it would have been obvious for one skilled in the art to include a woven fabric structure comprising machine direction yarns and cross machine direction yarns in view of Wicker. Applicants respectfully disagree.

Welch merely discloses that the lower ply 119 is covered on its lower surface with a high friction rubber cover 122. The top side of the belt is also provided with an upper rubber cover 123 which includes a special web support structure. Welch further discloses that in the process of manufacturing the belt 92, the underside 116 is cut away in the regions intended to comprise the low friction strips 117, by cutting through the lower rubber cover 122 and the lower fabric ply 119. The low friction strips 117 are glued in the regions cut away leaving therebetween the high friction rubber strips 118. The material comprising the low friction strips 117 may, for

example, be a single or multi-ply polyester fabric similar to the fabric used in the other belt plies.

Therefore the plies of Welch are single or multi-ply polyester fabrics and are not necessarily woven fabrics comprising machine direction and cross machine direction yarns, as recited in the instant claims. There is no motivation for one skilled in the art to modify the plies of Welch into woven fabrics, since Welch, at the first place, lacks the suggestion that the fabric could be of any other type.

Claims 1-6 and 8 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,470,944 to Billings et al. (hereinafter, merely “Billings”) in view of U.S. U.S. Patent No. 6,428,874 to McGahern et al. (hereinafter, merely “McGahern”) and further in view of US 2002/0102894 to Hansen (hereinafter, merely “Hansen”).

Billings is directed to an unlaminated belt for a single-facer section of a corrugated board production line having a single base structure in the form of an endless loop. Applicants submit that Billings does not teach or suggest the above identified features of claim 1. Specifically, Applicants submit Billings does not teach or suggest a polymeric resin coating applied on the board contact surface of the base structure; and a plurality of grooves formed in the polymeric resin coating. The fabric according to Billings is not grooved or holed on the board contact surface. The instant invention is actually, an improvement thereon (See ¶ 0014, 0035-0037 and 0060-0061 of the specification).

For the grooves, the Examiner looks to Hansen, and specifically reference is made to paragraphs 15, 21 and 52 of Hansen. There is nothing in Hansen to indicate that his yarn would be the sheet contacting surface of a corrugator belt. Rather they are meant to be reinforcing structures for belts such as corrugator belts. *Hansen*, paragraph 15.

As set forth previously during the prosecution, when referring to dewatering, Hansen teaches “other industrial settings” and does not refer to corrugator belts. Paragraph 21 talks of the use of grooved yarns with no application mentioned. The only grooved yarns are shown in Figure 6. In paragraph 54 a discussion of Figure 6 takes place where the grooves are stated to provide for storage of water from a cellulosic fibrous web. In other words, the grooves are used during papermaking and not in corrugator board production. Similarly, in paragraph 52 (and 53) when referring to the holes in the yarn for water storage, it is water from a cellulosic fibrous web and not a paper board as in the instant case. Accordingly, there is no teaching in Hansen for using such yarns, grooved or perforated, in a corrugator belt. Rather the yarns are reinforcing yarns and not dewatering yarns in this regard.

As to McGahern, it involves primary and secondary grooves, but in a process belt. McGahern, specifically, relates to a resin-impregnated endless belt for a long nip press or calendar of the shoe type. It is directed to a shoe press belt with a grooved surface, which is to provide spaces to separate the liquid phase moisture that is pressed from a sheet/press fabric. The instant invention, on the contrary, relates to a single facer corrugator belt in combination with a corrugator machine that is specifically designed to allow moisture vapor that comes from the heated board to pass out of the facer zone and into the belt. There is no motivation for a skilled worker in the corrugator belt art to look into paper making belts to solve the problem addressed by the present invention.

On page 4 of the Office Action, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to have a plurality of grooves formed on the distinct resin layer that forms the outside surface of the base structure of Billings in view of McGahern and further in view of Hansen. Applicants respectfully disagree.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings either in the references themselves or in the general knowledge available to one of ordinary skill in the art; second, there must be a reasonable expectation of success; third, the prior art reference or references must teach or suggest all the claim limitations. M.P.E.P. § 2143. It is, however, impermissible for the Examiner to use hindsight based on an Applicant's disclosure to determine that an Applicant's invention is obvious in view of the cited art. M.P.E.P. § 2142. The motivation or teaching to make the claimed combination by modifying or combining prior art references must be found in the prior art and not in the Applicant's disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). There is nothing that would motivate a skilled worker in the art to modify Billings with grooves from a shoe press fabric, a different application with its own needs and requirements.

Therefore, Applicants submit that none of the three references teach grooves being formed in the polymeric resin coating applied to one surface of the base structure of a corrugator belt, as recited in the instant claims.

For at least the foregoing reasons, Applicants respectfully request the withdrawal of the rejection and submit that independent claim 1 is patentable.

III. OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTION

Claims 1-6 and 8 were rejected under the judicially-created doctrine of obviousness-type double patenting as allegedly being unpatentable over claim 1-19 of Billings in view of McGahern and further in view of Hansen.

For at least the reasons discussed above, Applicants request reconsideration and withdrawal of the provisional obviousness-type double patenting rejection.

IV. DEPENDENT CLAIMS

The other claims are dependent from one of the independent claims, discussed above, and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

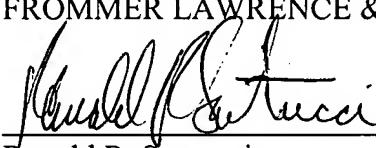
In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference or references, it is respectfully requested that the Examiner specifically indicate those portions of the reference or references, providing the basis for a contrary view.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicants respectfully requests early passage to issue of the present application.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Respectfully submitted,
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